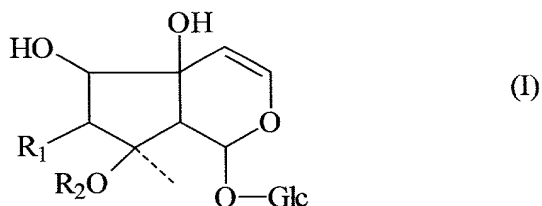


WHAT IS CLAIMED IS:

1. Use of a compound represented by the following formula (I) as an agent for prevention and treatment of arthritis, osteoporosis and ruptured disc:

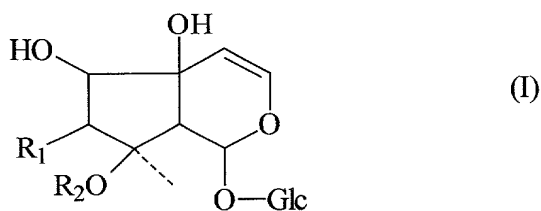


in which

R_1 represents hydrogen atom or alkyl group; and

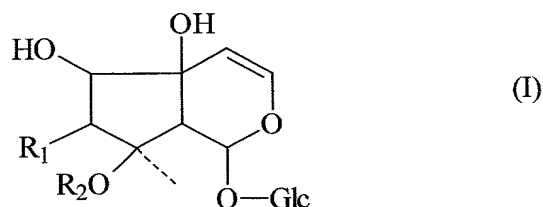
R_2 represents hydrogen atom or cinnamoyl group.

2. A pharmaceutical preparation containing as an effective component a compound represented by the following formula (I):



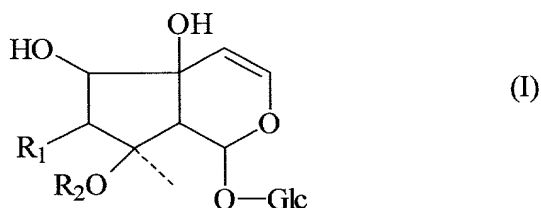
in which R_1 represents hydrogen atom or alkyl group and R_2 represents hydrogen atom or cinnamoyl group, in combination with a pharmaceutically acceptable auxiliary, diluent, isotonic agent, preservative, lubricant and solubilizing aid, which is formulated in the form of a pharmaceutically acceptable preparation and has a potent effect for osteoporosis, arthritis and ruptured disc.

3. A pharmaceutical preparation containing as an effective component a compound represented by the following formula (I):



in which R_1 represents hydrogen atom or alkyl group and R_2 represents hydrogen atom or cinnamoyl group, and one more materials selected from the group consisting of allendrate, tamoxifen, vitamin D_3 , parathyroid hormone (PTH), sulfasalazine, thioredoxin reductase, alendronate, raloxifene, calcitonin, estradiol, genistein, 1,25-dihydroxyvitamin D_3 , estrogen receptor modulator, biphosphonates, shinbarometin (novel material developed by the present inventors) and shinbarometin acetate (novel material developed by the present inventors), in combination with a pharmaceutically acceptable auxiliary, diluent, isotonic agent, preservative, lubricant and solubilizing aid, which is formulated in the form of a pharmaceutically acceptable preparation and has a potent effect for osteoporosis, arthritis and ruptured disc.

4. A process for preparing a compound of formula (I) wherein R_2 is hydrogen atom, which has a more potent pharmacological activity, characterized in that a compound of formula (I) wherein R_2 is cinnamoyl is hydrolyzed:



in which R_1 represents hydrogen atom or alkyl group and R_2 represents hydrogen atom or cinnamoyl group.

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